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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,810	07/28/2000	Chong-Mok Park	1317.1067 (MDS)	3494

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EXAMINER

CHIEU, PO LIN

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 06/07/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/628,810

Applicant(s)

PARK, CHONG-MOK

Examiner

Polin Chieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-13, 15, 17-21, 23-27, 29 and 32-36 is/are rejected.
- 7) ☒ Claim(s) 14, 16, 22, 28, 30 and 31 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 15 and 29 are objected to because of the following informalities: the claims recite "reading the first through third video streams"; however, independent claims 11 and 25 only recite first through third video signals. The examiner believes that the claims should be amended to state, "reading the first through third broadcast signals". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al (5,999,691) in view of Kuroda (6,331,011).

Regarding claim 1, Takagi et al discloses disposing a circular buffer area in a first predetermined position of the recording medium, for recording a first broadcast signal in real time while reproducing a previously recorded second broadcast signal (fig. 6). However, Yoneda does not disclose a second predetermined position of the recording medium for recording a third broadcast signal at a predetermined time; and disposing control information in a third predetermined position.

Kuroda teaches disposing a video file area in a second predetermined position of the recording medium, for recording a third broadcast signal in a logical file at a predetermined time (fig. 17); and disposing a control information area in a third predetermined position of the recording medium, for recording information about the first, second and third broadcast signals (col. 7, lines 32-57).

It would have been highly desirable to record a third broadcast signal at a predetermined time so that a user does not have to be present to record a program. It would have been highly desirable to have a control information area so that information about programs can be provided to the user in a display (figs. 15-18).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to record a third broadcast signal and control information in the device of Takagi et al.

Regarding claim 2, Takagi et al discloses dividing the video file area into a plurality of segments and individually managing the segments (fig. 24).

Regarding claims 6 and 7, Takagi et al does not disclose disposing a general file area in a predetermined fourth position of the recording medium, for managing files of information other than continuous data like video information.

Kuroda teaches recording program information or information other than continuous data (col. 7, lines 32-57).

It would have been highly desirable to have a fourth position for managing files of the information other than continuous data so that the information can be used to provide a display to the user (figs. 15-18).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a fourth position for managing files of the information other than continuous data in the device of Takagi et al.

4. Claims 3-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al in view of Kuroda and Kikuchi et al (5,870,523).

Regarding claims 3-5, Takagi et al does not disclose that the circular buffer area and a video file area include blocks of fixed sizes; and un-continuously arranging video file blocks in the video file area.

Kikuchi et al teaches recording blocks of fixed sizes (figs. 25-26, col. 18, lines 5-43); and un-continuously arranging the video file blocks in the video file area (fig. 6).

It would have been highly desirable to record data in a MPEG format, which has blocks of fixed sizes and un-continuously arranges blocks, so that the video is recorded in a high quality digital standard that is well established.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have blocks of fixed sizes and un-continuously arranged video data in the device of Takagi et al.

The limitations of claim 8 were discussed in the art rejection of claims 6-7.
Please refer to the art rejection of claims 6-7.

5. Claims 11-12, 18-20, 24-26, 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda (6,002,832) in view of Kuroda.

Regarding claims 11, 19, and 25, Yoneda discloses a broadcast signal receiving system having a hard disk drive (col. 8, lines 31-39) forming a first area on the recording

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medium, for recording a first broadcast signal, which is currently being broadcast, and reproducing a second broadcast signal previously recorded in real time (col. 13, lines 30-40). However, Yoneda does not disclose a second area on the recording medium for recording a third broadcasting signal at a reserved time.

Kuroda teaches forming a second area on the recording medium for recording a third broadcast signal at a reserved time (fig. 17).

It would have been highly desirable to form a second area on the recording medium for recording a third broadcast signal at a reserved time so that the user can set recording for a future program, thereby allowing the program to be recorded without the user having to be present.

Therefore, it would have been highly desirable to a person of ordinary skill in the art at the time of the invention to form a second area on the recording medium for recording a third broadcast signal at a reserved time in the device of Yoneda.

Regarding claims 18 and 36, Yoneda discloses a broadcast receiving system with a hard disk drive with a first area for recording a first broadcast signal, which is currently being broadcast, and reproducing a second broadcast signal previously recorded in real time, and a second area, for recording a third broadcast signal, and a fourth broadcast signal previously recorded (col. 13, line 30 – col. 16, line 8); inputting the first and third signal broadcast signals simultaneously in a first period (col. 13, lines 30-40); recording the first and third broadcast signals on the first and second areas, respectively, and reading the second and fourth broadcast signals from the first and second areas (figs. 4A-D, col. 13, lines 30-40), respectively in a second period next to

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the first period; and reproducing the read second and fourth broadcast signals in a third time period next to the second period (col. 13, lines 30-40). However, Yoneda does not disclose that the third broadcast signal is recorded at a reserved time. Kuroda teaches reserved recording of a third broadcast signal, as discussed previously. Please refer to the art rejection of claim 11.

Regarding claims 12, 20, and 26, Yoneda does not disclose forming a third area on the recording medium, for recording information related to the first through the third broadcast signals.

Kuroda teaches recording program information or information other than continuous data for the recorded programs and the programs reserved to be recorded (col. 7, lines 32-57).

It would have been highly desirable to have a third area on the recording medium, for recording information related to the first through the third broadcast signals so that the information can be used to provide a display to the user (figs. 15-18).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a third area on the recording medium, for recording information related to the first through the third broadcast signals in the device of Yoneda.

Regarding claim 24, Yoneda does not disclose a fourth area to store information other than continuous information of video streams.

Kuroda teaches a fourth area recording EPG information or information other than continuous information of video streams (col. 7, lines 32-57).

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It would have been highly desirable to have a fourth area recording information other than continuous information of video stream so that the device could additionally provide an electronic program guide (EPG) for the user.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a fourth area in the device of Yoneda.

Regarding claim 32, Yoneda discloses a random access memory to temporarily store the first through third broadcast signals prior to recording on a subsequently reading from the recording medium (fig. 3); and a video recovery unit to restore the first through third broadcast signals reproduced read from the recording medium and temporarily stored in a random access memory to respective original signals (col. 13, line 30 – col. 16, line 8).

Regarding claim 33, Yoneda does not disclose a timer to set the reserve time.

Kuroda teaches a timer to set the reserve time (fig. 17).

It would have been highly desirable to have a timer to set the reserve time so that a program could be recorded in the future.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a timer in the device of Yoneda.

Regarding claims 34, Yoneda discloses a broadcast signal receiver comprising a N- channel receiving section (12, fig. 8); a video compressor to convert the received analog signal to a digital signal and compress the digital signal as the first, second or third broadcast signal (24); and a selector to selectively enable transmission of the external digital broadcast signal and the compressed digital signal to the random access

memory (13). Yoneda does not disclose that the N channel broadcast receiving section comprises a first RF tuner and a second RF tuner.

RF tuners are a well-known means for receiving a digital or analog broadcast signal. Since Yoneda discloses that the receiver receives a plurality of channels, there must be a plurality of tuners. Therefore, it would have been obvious to have a first RF tuner to receive a digital signal and a second tuner to receive a analog broadcast signal.

It would have been highly desirable to have a first RF tuner so that a digital broadcast signal could be received for recording and a second RF tuner so that a analog broadcast signal could be received for recording.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a first and second RF tuner in the device of Yoneda.

Regarding claim 35, Yoneda discloses a random access memory to temporarily store data generated during control operations of the hard disk drive (fig. 3); and a memory management section with control program data to control the hard disk drive (col. 8, lines 10-23). However, Yoneda does not disclose that the memory management section is a read only memory.

Read only memories are well known in the art.

It would have been highly desirable to store the control program data in a read only memory so that the user cannot alter the control program data. If the user was allowed to alter the control program data, then the device may no longer operate properly.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a read only memory in the device of Yoneda.

6. Claims 13, 17, 21, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda in view of Kuroda and Kikuchi et al.

Regarding claims 13 and 17, Yoneda discloses the first area is a circular buffer with blocks of fixed sizes and continuous data (fig. 22b). However, Yoneda does not disclose that the second area is a video file area which has blocks of fixed sizes and contains un-continuous data in logical files; and forming a fourth area to store information other than continuous information of video streams.

Kikuchi et al teaches a video file area which has blocks of fixed sizes and contains un-continuous data in logical files (figs. 6 and 25-26)

Kuroda teaches a fourth area recording EPG information or information other than continuous information of video streams (col. 7, lines 32-57).

It would have been highly desirable to a video file area that has blocks of a fixed sizes and un-continuous data so that the video data is recorded in a high quality digital format. It would have been highly desirable to have a fourth area recording information other than continuous information of video stream so that the device could additionally provide an electronic program guide (EPG) for the user.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a video file area and a fourth area in the device of Yoneda.

The limitations of claims 21 and 27 were discussed in the art rejection of claim 13. Please refer to the art rejection of claim 13.

7. Claims 15 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda in view of Kuroda and Ozden et al (5,761,692).

Regarding claims 15 and 29, Yoneda discloses simultaneously selecting time delayed watching and reproduction (col. 8, lines 40-47). However, Yoneda does not disclose reading the first through third video signals in an ascending track number order in a C-LOOK algorithm.

Ozden et al teaches using C-LOOK in a disk device (col. 1, line 10 – col. 2, line 48).

It would have been highly desirable to use C-LOOK to optimize movement of a disk arm of a disk reader over a disk (col. 2, lines 26-48).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have C-LOOK in the device of Yoneda.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda in view of Kuroda and Takagi et al.

Regarding claim 23, Yoneda does not explicitly disclose tracks at both sides of a center track of the recording medium.

Takagi et al teaches tracks at both sides of a center track of the recording medium (figs. 22-25).

It would have been highly desirable to have tracks at both sides of a center track of the recording medium so that numerous ring buffers are formed, thereby allowing time shifting of a video program.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have tracks at both sides of a center track in the device of Yoneda.

Allowable Subject Matter

9. Claims 9-10 are allowed.

10. The following is an examiner's statement of reasons for allowance: The prior art discloses a circular buffer for recording a first broadcast signal while reproducing a previously recorded second broadcast signal; a general file area for managing files of information other than continuous data like video information; and a control information area for recording information about the first, second, and third broadcast signals. However, the prior art does not disclose a first video file area and a second video file area respectively in an outer circumferential portion and inner circumferential portion of a recording surface of the hard disk drive, for recording a third broadcast signals in a logical file at a predetermined time. Hiraoka et al and Kudo et al disclose recording in an inner circumferential portion and a outer circumferential portion; however, they do not disclose or suggest recording the first and second video file in the outer portion and the third broadcast signal in the inner portion

11. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

12. Claims 14, 16, 22, 28, 30, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: see reasons for allowance.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pijnenburg et al, Ikeda, Yoshimura et al, Yoneda, Russo et al, Logan et al, Thomason et al, Barton et al, Aotake, Krause et al, and Yamada et al disclose time lapse video recorders.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Polin Chieu whose telephone number is (703) 308-6070. The examiner can normally be reached on M-Th 8:00 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B. Christensen can be reached on (703) 308-9644. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any response to this action should be mailed to:

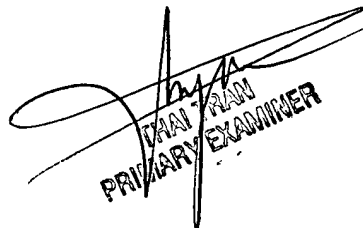
Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

PC
June 1, 2004

A handwritten signature in black ink is written over a rectangular stamp. The stamp contains the text "PRIMAR EXAMINER" in a bold, sans-serif font, with "PRIMAR" on the top line and "EXAMINER" on the bottom line. The signature is a stylized, cursive-like script that flows from left to right, crossing over the stamp.